AMENDMENTS TO THE DRAWINGS

The attached "Replacement Sheet" of drawings includes changes to Figure 3. The attached "Replacement Sheet 3/3," which includes Figure 3, replaces the original sheet including Figure 3.

Attachment: Replacement Sheet 3/3

REMARKS

Claims 1 through 38 are now pending in the application. Claims 1, 15, 20 and 26 are herein amended. The Examiner is respectfully requested to reconsider and withdraw the objections and rejections in view of the amendments and remarks contained herein.

INFORMATION DISCLOSURE STATEMENT

The Examiner noted two items identified as Patent Abstracts of Japan were not included with the Information Disclosure Statement filed on February 2, 2004, and were therefore not considered by the Examiner. These two line items were identified in the International Search Report dated November 26, 2002. Copies of the corresponding Japanese patents were provided with the Information Disclosure Statement as listed in lines 3 and 4 under Foreign Patent Documents of the Form 1449 filed on February 2, 2004. The two listings of Patent Abstracts of Japan are therefore redundant and the necessary disclosure was provided by submission of the two Japanese patents provided with the Information Disclosure Statement filed on February 2, 2004, therefore no further submission is required.

FOREIGN PRIORITY STATUS

The Examiner noted "the foreign priority status of the instant application is unclear." Applicants wish to thank the Examiner for the courtesies extended to Applicants' representative Thomas Krul during a telephonic interview dated September 23, 2005. Applicants pointed out that the claim for foreign priority was made in the first

paragraph of the specification and in an Application Data Sheet both filed on February 2, 2004. The Examiner indicated an interview summary would be issued identifying the above.

DRAWINGS

The drawings stand objected to for certain informalities. Applicants have attached a revised drawing for the Examiner's approval. In the "Replacement Sheet" the German language text of the flow chart identified in Figure 3 has been translated into English at the request of the Examiner. The Examiner is respectfully requested to enter replacement sheet 3/3 provided herewith and withdraw the Drawing Objection.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 through 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Raycher et al. (U.S. Pat. No. 4,804,811) in view of Erlich (U.S. Pat. No. 3,526,744). This rejection is respectfully traversed.

It is initially noted Claim 1 has been amended to recite in part:

> "a control and energy device having a plurality of members, including:
>
> a central control device operable to coordinate and monitor the members of the control and energy device; and
>
> a safety switch independent of the central control device having a first plurality of control lines and a second plurality of test lines, the safety switch directly connected via individual ones of the plurality of control lines to each of the power supply device, the feed control device and the central

control device, the safety switch operable to monitor a plurality of safety functions of the welding system;"

Support for this amendment is found in paragraphs [0037], [0040] and [0043] of the specification.

The Examiner states the patent to Raycher et al. discloses "a safety switch that monitors various safety and operational functions encompassing element 53 (figure 3) and the monitoring operations performed by the control system based on microprocessor 30 (figure 2)." Respectfully, Applicants' safety switch does not equate to a combination of element 53 (weld enable circuit 53 of Figure 3) plus "the monitoring operations performed by the control system based on microprocessor 30" of Raycher et al. as suggested by the Examiner, for the reasons noted below.

Raycher et al. defines Figure 3 as designating a block diagram of an individual one of the multiple isolators 13 (see Figure 10). See column 7, lines 23-24. A plurality of isolators are required, each isolator connected to a single weld gun. See column 4, lines 27-28. Raycher et al. teaches "the SCR enable signal passes through buffer 52 to a weld enable circuit 53 to fire SCR 48 to permit the pilot arc and main welding current to pass to the stud welding gun." See column 8, lines 3-7. No other function other than to fire SCR 48, and no monitoring function is specifically attributed to weld enable circuit 53. Weld enable circuit 53 is also connected only between buffer 52 and SCR 48 (see Figure 3). A plurality of weld enable circuits are therefore required, each provided by one of the isolators.

Microprocessor 30 is part of the multiplexer 12. See column 6, lines 11-18. Microprocessor 30, as shown in Figure 1, is directly connected only to the various isolators 13, to power supply 16, to various printers 17, and to micromark device 10.

If microprocessor 30 of multiplexer 12 plus weld enable circuit 53 are equated to Applicants' switch, the limitation of amended Claim 1 of "a safety switch independent of the central control device" is not met. Raycher et al. also does not teach or suggest a plurality of control lines and test lines of a switch where the control lines directly connect the switch to each of a power supply device, a feed control device and a central control device. No element of Raycher et al. teaches or suggests this combination of features.

Ehrlich '744 does not teach or suggest a central control device operable to coordinate and monitor the members of the control and energy device. Ehrlich '744 also does not teach or suggest a safety switch independent of the central control device having a first plurality of control lines and a second plurality of test lines, the safety switch directly connected via individual ones of the plurality of control lines to each of the power supply device, the feed control device and the central control device. Still further, Ehrlich '744 does not teach or suggest a safety switch operable to monitor a plurality of safety functions of the welding system.

The suggested modification of Raycher et al. and Ehrlich therefore cannot render amended Claim 1 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 1. Because Claims 2-19 depend from Claim 1, the suggested modification of Raycher et al. and Ehrlich cannot render Claims 2-19 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 2-19.

In addition to the above arguments, the Examiner has failed to establish a prima facie case of obviousness with respect to Claim 13. The Examiner has not identified how the claim limitation of a pulse blocker switch is taught or suggested by Raycher et al. and/or Ehrlich.

Further, the Examiner has also failed to establish a prima facie case of obviousness with respect to Claim 15. The Examiner has not identified how the claim limitation of a defined manner for operably delaying and disconnecting from the electrical power the power supply device and the feed control device is taught or suggested by Raycher et al. and/or Ehrlich. Applicants have also amended Claim 15 to further define a delay signal produced by the safety switch. Support for this amendment is found in paragraph [0043] of the specification. The references of Raycher et al. and/or Ehrlich alone or in combination do not teach or suggest a delay signal from a safety switch.

Still further, the Examiner has also failed to establish a prima facie case of obviousness with respect to Claims 18 and 19. The Examiner has not identified how the claim limitations of "a safe technology design" as defined by Applicants is taught or suggested by Raycher et al. and/or Ehrlich.

It is initially noted Claim 20 has been amended to recite in part:

> "a safety switch operable to monitor a plurality of safety functions of the welding system, the safety switch having a signal output operable to initially delay an output of the power supply device and subsequently disconnect the power supply device."

Support for this amendment is found in paragraph [0043] of the specification.

Neither of the references of Raycher et al. or Ehrlich teach or suggest a safety switch which includes a signal output operable to delay an output of a power supply device. Neither of the references of Raycher et al. or Ehrlich teach or suggest a safety switch which provides a signal output operable to disconnect a power supply device after initially delaying an output of a power supply device.

The suggested modification of Raycher et al. and Ehrlich therefore cannot render amended Claim 20 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 20. Because Claims 21-25 depend from Claim 20, the suggested modification of Raycher et al. and Ehrlich cannot render Claims 21-25 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 21-25.

It is initially noted Claim 26 has been amended to recite in part:

> "coordinating the arc welding system using a central control device;
>
> connecting a safety switch independently to each of the power supply device, the feed control device and the central control device, the safety switch operable to send a delaying signal to the power supply device. "

Support for this amendment is found in paragraphs [0037], [0040] and [0043] of the specification.

For at least the same reasons as noted above with respect to Claim 1, the suggested modification of Raycher et al. and Ehrlich do not disclose the step of connecting a safety switch independently to each of the power supply device, the feed

control device and the central control device, the safety switch operable to send a delaying signal to the power supply device and therefore the suggested modification of Raycher et al. and Ehrlich cannot render amended Claim 26 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 26. Because Claims 27-32 depend from Claim 26, the suggested modification of Raycher et al. and Ehrlich cannot render Claims 27-32 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 27-32.

With respect to Claim 33, Raycher et al. appears to teach only that the power supply be shut off under various system operating or safety conditions. Ehrlich does not teach or suggest a power supply or a delaying function associated with the power supply. Neither of the references of Raycher et al. or Ehrlich individually or in combination teach or suggest delaying both a power supply device for the welding head device and a feed control device operable to control a feeding of the element.

The suggested modification of Raycher et al. and Ehrlich therefore cannot render Claim 33 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 33. Because Claims 34-36 depend from Claim 33, the suggested modification of Raycher et al. and Ehrlich cannot render Claims 34-36 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claims 34-36.

With respect to Claim 37, and as similarly noted above with respect to Claim 33, Raycher et al. appears to teach only that the power supply be shut off under various system operating or safety conditions. Ehrlich does not teach or suggest a power supply or a delaying function associated with the power supply. Neither of the references of Raycher et al. or Ehrlich individually or in combination teach or suggest delaying both a power supply device for the welding head device and a feed control device operable to control a feeding of the element.

The suggested modification of Raycher et al. and Ehrlich therefore cannot render Claim 37 obvious. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 37. Because Claim 38 depends from Claim 37, the suggested modification of Raycher et al. and Ehrlich cannot render Claim 38 obvious for at least the same reasons. The Examiner is respectfully requested to withdraw the 35 U.S.C. § 103(a) rejection of Claim 38.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: SEPTEMBER 26, 2005

By: _____
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